

REMARKS

In the Amendment, claim 8 has been amended to add the “%” sign inadvertently omitted in the Amendment filed December 11, 2003.

Claims 2-4 and 6-7 have previously been canceled.

No new matter has been added and entry of the Amendment is respectfully requested.

Upon entry of the Amendment, claims 1, 5 and 8-19 will be all the claims pending in the application.

I. Response to Rejection Under 35 U.S.C. § 102

Claims 1, 5 and 8-19 were rejected under 35 U.S.C. § 102(b) as being anticipated by Arcella et al (EP 0 518 073 A1) (“Arcella”).

Applicants respectfully traverse the rejection for at least the following reasons.

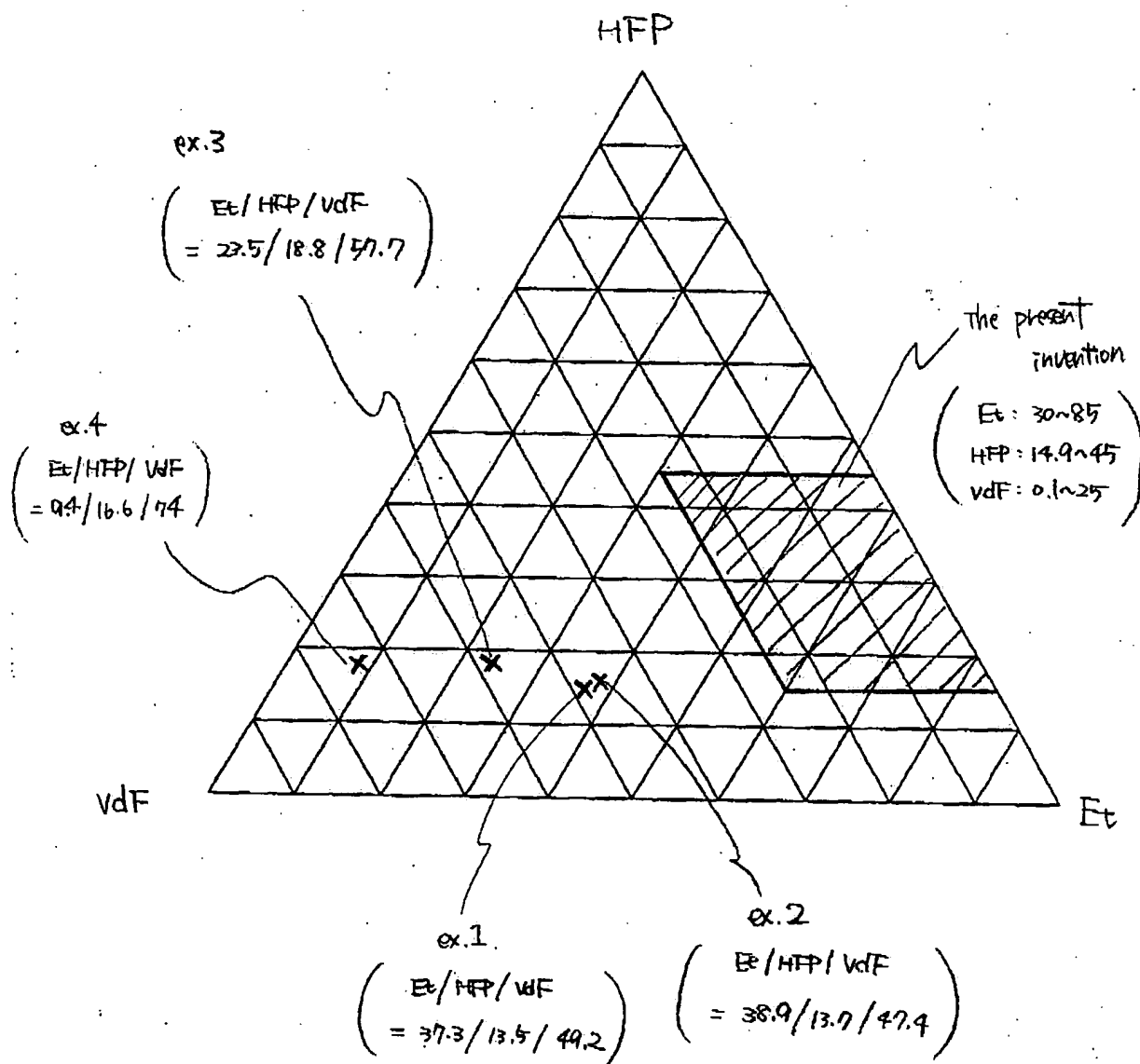
The compositions of Examples 1-4 of Arcella recalculated to bring the total amount of three VdF, HFP and Et components to 100 mol% are Ex. 1: Et/HFP/VdF = 37.3/13.5/49.2, Ex. 2: Et/HFP/VdF = 38.9/13.7/47.4, Ex. 3: Et/HFP/VdF = 23.5/18.8/57.7, and Ex. 4: Et/HFP/VdF = 9.4/16.6/74. For the Examiner’s consideration, the above-recalculated compositions of Examples 1-4 of Arcella and the composition range of the ternary copolymer (Et/HFP/VdF) of Claim 1 of the present invention have been plotted on the following ternary graph:

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AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No.: 10/018,367

Attorney Docket Q67396

Ternary Graph



As shown in the ternary graph, the compositions of Examples 1-4 of Arcella are outside the scope of present claim 1 which requires 30 to 85 % by mole of ethylene unit, 14.9 to 45 % mole of hexylfluoropropylene unit and 0.1 to 25 % by mole of vinylidene fluoride unit. That is, Arcella fails to meet each of the terms of the present claims. For this reason alone, Arcella does not anticipate the present invention.

In addition, as shown in the ternary graph, the fluorine-containing elastomeric polymer of the present invention has a small VdF content, which constitute cure sites for polyol vulcanization, and a large ethylene content. An ethylene unit is hardly subject to attack by a nucleophilic reagent, and therefore imparts amine resistance to the copolymer. On the other hand, a vinylidene fluoride unit is easily subject to attack by a nucleophilic reagent, which is disadvantageous with respect to amine resistance, but is capable of being a cure site for the polyol vulcanization. A copolymer which has both good amine resistance and which can be subject to polyol vulcanization can be obtained only by the monomer proportions defined in present claim 1. Namely, by appropriately mixing the monomer units in good balance, both of the two contradictory effects of amine resistance and polyol vulcanizability can be achieved. None of the above-noted advantages of the present invention are taught or suggested by Arcella, and there is nothing in the prior art which would lead one of ordinary skill to modify the monomer composition of the fluoroelastomer described therein so as to fall within the scope of present claim 1. In fact, as shown in the ternary graph, the Examples 1 to 4 of Arcella fall well outside the range of the present invention.

In view of the above, Applicants respectfully submit that the present invention is both novel and patentable over Arcella and thus the rejection should be withdrawn.

II. Conclusion

In view of the above, reconsideration and allowance of claims 1, 5 and 8-19 are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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